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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
10/620,190	07/15/2003	David T. Jennings III	BRI/024	8691

7590 12/18/2003

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EXAMINER	
BLACKNER, HENRY A	

ART UNIT	PAPER NUMBER
3641	

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/620,190	JENNINGS III, DAVID T	
	Examiner	Art Unit	
	Henry A. Blackner	3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 July 2003*.

2a)☐ This action is FINAL. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8-14, and 16-20* is/are rejected.

7)☒ Claim(s) *6,7, and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

1. CEN Document prCEN/TS 13763-27 (NMP 898/FABERG N 0090 D/E) E 2002-06-19, paragraph 21, line 12.

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show that pin 13 is grounded, figure 4, as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 18' (figure 2) and 21 (figure 3). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office

action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informality: In the phrase "flag indicates whether or not the device has been *been* detected on the bus", paragraph 44 lines 4-5; suggest deleting the duplicate term "been", for clarity.

Appropriate correction is required.

Claim Objections

Claims 6 and 13-20 are objected to because of the following informality:

1. In regards to claim 1, the term "system", line 4, was previously identified as an "*electronic* system".
2. In regards to claim 13, the term "system", line 6, was previously identified as an "*electronic* system".
3. In regards to claims 14-16, the preamble "The system of claim", should read as "The *electronic* system of claim".
4. In regards to claim 17, the term "system", line 4, was previously identified as an "*electronic* system".
5. In regards to claims 18-20, the preamble "The device of claim", should read as "The *slave* device of claim".
6. In regards to claim 20, the term "system", line 2, was previously identified as an "*electronic* system".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 11 recites the limitation "said clock sequence" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U S C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 8-14, and 16-20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent No. 6,584,907 B2 to Boucher.

In regards to claim 1, Boucher clearly illustrates, a method of charging slave devices in an electronic system in a staggered fashion, comprising the following steps: a) establishing a system including a master device (12) and a bus (14), b) connecting multiple slave devices (16, 18, 20, 22) to the bus, and c) selectively charging the slave devices with electrical energy supplied by the master device on the bus, wherein the charging of the slave devices is temporally staggered so that slave devices begin charging at different times, in figure 1A, 1B, 2, and 3,

column 6 lines 58-64 and line 67, column 7 lines 1-14 and lines 26-30, column 9 lines 4-14 and lines 36-67, column 10 lines 1-17, column 14 lines 15-65.

In regards to claim 2, Boucher clearly illustrates, wherein step c) includes the step of the master device issuing individually addressed charge commands to slave devices, in column 9 lines 36-67 and column 10 lines 1-17.

In regards to claim 3, Boucher clearly illustrates, wherein step c) includes the step of the master device issuing individually addressed charge commands to banks of slave devices, in the rejection of corresponding parts of claim 2, above.

In regards to claim 4, Boucher inherently illustrates, wherein the electronic system is an electronic blasting system, the master device is a blasting machine, and the slave devices are electronic detonators, in column 6 lines 58-64.

In regards to claim 5, Boucher inherently illustrates, wherein step c) includes the step of the master device issuing a charge command followed by a clock sequence, in column 14 lines 15-65.

In regards to claim 8, Boucher inherently illustrates, wherein the clock sequence has a temporal frequency and the time during which slave devices are selectively charged is at least partly a function of the temporal frequency, in the rejection of corresponding parts of claim 5, above.

In regards to claim 9, Boucher clearly illustrates, wherein the charging in step c) includes a constant-current, rail voltage limited charging process, in the rejection of corresponding parts of claim 1, above.

The fundamental method of charging a capacitor involves: that upon applying a voltage to a capacitor, 1) the current draw of the capacitor is held at a constant value and that the stored voltage is increased at a linear rate and 2) as the stored voltage approaches the required voltage value and is held constant, the current draw of the capacitor decreases.

In regards to claim 10, Boucher clearly illustrates, wherein step c) includes charging the slave devices in banks, in column 9 lines 36-67 and column 10 lines 1-17.

In regards to claim 11, Boucher inherently illustrates, wherein the clock sequence has a temporal frequency that is chosen to ensure that each bank of slave devices is charged, at least until the attainment of the rail-voltage, without any other bank of slave devices being simultaneously charged, in column 9 lines 36-67, column 10 lines 1-17, and column 14 lines 15-65.

In regards to claim 12, Boucher inherently illustrates, wherein the electronic system is an electronic blasting system, the master device is a blasting machine, and the slave devices are electronic detonators, in column 6 lines 58-64.

In regards to claim 13, Boucher clearly illustrates, an electronic system capable of charging slave devices in a staggered fashion, comprising: a bus (14) and a master device (12) configured to supply electrical energy on the bus, and multiple slave devices (16, 18, 20, 22) connected to the bus, wherein the system is configured and/or programmed so that the slave devices are selectively charged with the electrical energy in a temporally staggered fashion so that slave devices begin charging at different times, in figure 1A, 1B, 2, and 3, column 6 lines 58-64 and line 67, column 7 lines 1-14 and lines 26-30, column 9 lines 4-14 and lines 36-67, column 10 lines 1-17, column 14 lines 15-65.

In regards to claim 14, Boucher inherently illustrates, wherein the master device is configured and/or programmed to issue a charge command and a clock sequence, in column 14 lines 15-65.

In regards to claim 16, Boucher inherently illustrates, wherein the electronic system is an electronic blasting system, the master device is a blasting machine, and the slave devices are electronic detonators, in column 6 lines 58-64.

In regards to claim 17, Boucher clearly illustrates, a slave device for use in an electronic system having a master device (12), a bus (14), and multiple slave devices (16, 18, 20, 22), the slave device being configured and/or programmed to be selectively charged in the system, in figure 1A, 1B, 2, and 3, column 6 lines 58-64 and line 67, column 7 lines 1-14 and lines 26-30, column 9 lines 4-14 and lines 36-67, column 10 lines 1-17, column 14 lines 15-65.

In regards to claim 18, Boucher clearly illustrates, the device further configured and/or programmed to selectively charge in response to an individually addressed command from the master device, in column 9 lines 36-67 and column 10 lines 1-17.

In regards to claim 19, Boucher inherently illustrates, the device further configured and/or programmed to selectively charge in response to a charge command followed by a clock sequence, in column 14 lines 15-65.

In regards to claim 20, Boucher inherently illustrates, wherein the slave device is an electronic detonator, the system is an electronic blasting system, and the master device is a blasting machine, in column 6 lines 58-64.

Allowable Subject Matter

Claims 6, 7, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents show the state of the art in the field of Staggered charging of Slave Devices such as in an Electronic Blasting System.

U.S. Patent No. 6,173,651 B1 to Pathe et al

U.S. Patent No. 6,000,338 to Shann

U.S. Patent No. 5,894,103 to Shann

U.S. Patent No. 5,520,114 to Guimard et al.

U.S. Patent No. 5,460,093 to Prinz et al.

U.S. Patent No. 5,014,622 to Jullian

U.S. Patent No. 4,986,183 to Jacob et al.

U.S. Patent No. 4,674,047 to Tyler et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry A. Blackner whose telephone number is 703-305-4799. The examiner can normally be reached on 09 15 - 17:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 703-306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5771.

hab
13 December 2003

MICHAEL J. [illegible]
SUPERVISORY PATENT EXAMINER